# 2006 INTERNAL AUDIT

**of the**

**OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM**

**for**

## OHSAS 18001 PHASE 1 & 2 ORGANIZATIONS


## Final Report

April 28, 2006

Audit Performed by:

Lead Auditors:
R. Selvey, SHSD
N. Bernholc, SHSD

Field Audit Team Members:
NSLS: C. Weilandics- Lead; R. Selvey
HENP: E. Lacina- Lead; F. Horn; K. Erickson
BES: D. Robbins- Lead; J. Peters
F&O: N. Bernholc- Lead

Report Approved by:

| | | | |
|---|---|---|---|
| *Signature on file* | | *Signature on file* | |
| R. Selvey, Report Preparer | date | J. Tarpinian, BNL OSH Representative | date |

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# EXECUTIVE SUMMARY

In 2004, three BNL organizations lead a pilot program (Phase 1) to obtain Occupational Health & Safety Assessment Series 18001 registration. This new initiative allowed BNL to integrate occupational health and safety management systems by building upon the existing registration for ISO 14001 and the DOE Integrated Safety Management System (ISMS). In 2005, BNL expanded the OHSAS registration to include ten additional organizations (Phase 2). The balance of BNL organizations are grouped in Phase 3 (not reviewed in this Internal Audit). These organizations are still in the process of program development and have not been registered. The Phase 3 organizations will be audited internally in June-July as a separate audit.

Overall, the Internal Audit found the BNL OSH Program satisfies the OHSAS 18001 requirements in the organizations participating in Phase 1 and 2. The Phase 1 organizations continue to improve their OSH programs by refining their OHSAS 18001 elements. There is evidence that the OHSAS elements are fully integrated into their OSH program and mechanisms of conducting operations. The recently registered Phase 2 organizations are in the process of expanding and maturing their OSH program. In both the Phase 1 and 2 organizations, no slippage to pre-registration status was found.

Overall, the BNL OSH satisfies all of the 18001 requirements. The audit team identified seven minor nonconformances, eight Opportunities for Improvement, and nine Noteworthy Practices.

All major nonconformances and minor non-conformances from the previous years Internal Audits and the NSF Registration Audits had been closed.

## 1.0 INTRODUCTION

An internal audit of the Brookhaven National Laboratory Occupational Safety & Health (OSH) Management System was performed February 22 to March 7, 2006. The purpose of the audit was to determine whether the BNL OSH program conforms to the elements of the OSHAS 18001 management system and to determine whether the OSH management system is adequate and effective in protecting the safety and health of workers and preventing incidents. This report contains a description of the scope, approach and findings of the audit.

## 2.0 SCOPE

This audit covered four BNL Directorates who have achieved OHSAS registration of their full organizations (HENP, BES, NSLS) or registration of selected divisions within their organization (F&O). All Phase 1 and 2 organizations were included in this audit with the exception of EWMSD. EWMSD was registered in Phase 2 but their Internal Audit will be included in the Phase 3 Internal Audit of the entire ESH&Q Directorate due to the integration of three new organizations that will occur in Phase 3.

This audit focused on select OHSAS 18001 elements identified by the Directorate/Department to correspond with elements being audited with the EMS ISO14001 internal audit. For the Phase 1 organizations, the OHSAS 18001 elements covered in this audit were the final part of a three year cycle that completes all OHSAS 18001 elements. For the Phase 2 organizations, who had an internal audit of all elements within the last 10 months, the selected elements for this year's audit were paired up to the elements being covered in the EMS 14001 audit.

Depending on the organization, the following elements of the specification were addressed in the audit:

- Planning for Hazard identification, Risk Assessment and Controls
- Legal and Other Requirements
- OH&S Objectives
- OH&S Management Programs
- Structure and Responsibility
- Document and Data Control
- Operational Control
- Emergency Preparedness and Response
- Performance Measurement and Monitoring
- Accidents, Incidents, Nonconformances, Corrective and Preventive Action
- Audit
- Management Review

## 3.0 AUDIT APPROACH

On behalf of the BNL OSH Management System Representative, the Lead Auditors prepared an internal audit schedule that matched the EMS ISO 14001 internal audit and involved combined meetings, interviews and field reviews. Planning meetings were held between OSH Representatives and EMS Representative in February to determine the scope of the internal audit, personnel to conduct the audits, and the preliminary dates for the interviews and field reviews. An opening meeting was held with the audited organizations on February 17, 2006.

The OSH Management System audit was conducted per an Audit Checklist [Interim Procedure Number: **2004-18001-005** Revision: 12, dated 11-18-05] over the period of February 21 to March 7, 2006. The audit was conducted by BNL staff, external to the organization being audited, who were familiar with the requirements of the OSHAS 18001 management system and the organization's operations. For 2006, the Safety and Health Services Division's Safety & Health Representatives served as the field auditors under the direction of the lead auditors (the OHSAS 18001 Phase 2 & 3 Project Manager and the OSH representative for the Support Organizations Reporting to the Director's Office). The lead auditors and field auditors each have training in conducting assessments from the *OHSAS 18001 Internal Auditor and Foundation Training Course* and experience by participation in last year's internal audits. The internal audit consisted of interviews with line organization ESH staff, review of written documentation, review of

previous audit findings, interviews with line organization staff, and field walk-through inspections of operations and work areas.

The field auditors provided a summary of their finding at the end of each day. A closing meeting was held with the organization audited on March 8, 2006 to discuss findings and immediate corrective actions if necessary. The audit records of the lead and field auditors are maintained by SHSD in file code HP80.7.

## 4.0 DEFINITIONS

Findings of the Internal Audit are characterized on the follow scale:

Major Nonconformance: A lack of an element, procedure, or a non-fulfilled requirement that puts the process/system at jeopardy, and could lead to significant impact on quality, environment, ES&H, operations, or reliability.

Minor Nonconformance: An observed lapse in a program, process, procedure, or requirement, usually single incidents that do not have a significant impact on the quality, environment, ES&H, operations, or reliability.

Opportunity for Improvement (Recommendation): A suggested means of improving an activity or fulfilling the intent of a requirement.

Noteworthy Practice: (A BNL used term that describes) performance that exceeds expectations in terms of efficiency and/or effectiveness and provides a model for others to follow. A noteworthy practice is a positive condition or strength.

## 5.0 FINDINGS

No major nonconformances were found in any of the OHSAS 18001 elements audited. Seven minor nonconformances, eight Opportunities for Improvement, and nine Noteworthy Practices in the following elements were recorded:

| OSH 18001 Clause | Major Nonconformance | Minor Nonconformance | Opportunity for Improvement | Noteworthy Practice |
|---|---|---|---|---|
| OSH Policy 4.2 | | 1 | | |
| Planning for hazard identification, risk assessment and risk control 4.3.1 | | 1 | | 2 |
| Legal & Other Requirements 4.3.2 | | | | |
| Objectives 4.3.3 | | | 1 | 1 |

| OSH 18001 Clause | Major Nonconformance | Minor Nonconformance | Opportunity for Improvement | Noteworthy Practice |
|---|---|---|---|---|
| OSH Management Programs 4.3.4 | | | | |
| Resources, roles, responsibilities and authority 4.4.1 | | 1 | | |
| Competence, Training, & Awareness 4.4.2 | | 2 | | |
| Consultation & Communication 4.4.3 | | | 1 | |
| Documentation 4.4.4 | | | | |
| Document & Data Control 4.4.5 | | 2 | 1 | 3 |
| Operational Control 4.4.6 | | | | 1 |
| Emergency Preparedness & Response 4.4.7 | | | | |
| Performance Monitoring & Measurement 4.5.1 | | | 1 | |
| Accidents, incidents, nonconformances, corrective and preventive Action 4.5.2 | | | 1 | 2 |
| Records and records management 4.5.3 | | | 1 | |
| Internal Audit 4.5.4 | | | | |
| Management Review 4.6 | | | 1 | |
| **TOTAL** | **0** | **7** | **8** | **9** |

Following the Corrective and Preventive Action Subject Area, these findings need to be analyzed and a determination made as to what corrective and preventive actions are to be taken. Also, the effectiveness of the actions needs to be evaluated. The Nonconformances will be entered into the BNL institutional level Assessment Tracking System (ATS) for formal tracking to closure. While the identified Opportunities for Improvement will **not** be tracked in ATS; the associated Department/Division is encouraged to consider these recommendations. The OSH Management Representative will be responsible for concurring with corrective actions and verifying the line organizations have tracked nonconformances to closure.

**Site Level (Institutional) and Line Organization Level Findings:**

**A. Major Nonconformances:** None

**B. Minor Nonconformances: (7)**

B.1 **ESSH Policy** (Element 4.2 of OSH 18001) *(f) Top Management shall define the organization's environmental policy and ensure that…it…is communicated to all persons working for or on behalf of the organization:* Several employees interviewed did not demonstrate awareness of the content of the ESSH Policy. **(C-AD/Magnet)**

B.2 **Planning for hazard identification, risk assessments and risk control** (Element 4.3.1): Two JRA's were completed and signed off without all team members being listed as participants. However through interviews it is clear that additional people were on the team. **(Collider Accelerator Department)**

B.3 **Structure and Responsibility** (Element 4.4.1): Two R2A2's did not contain the OHSAS Responsibilities. All R2A2's should contain the OSHAS Responsibilities. **(Collider Accelerator Department)**

B.4 **Training, awareness and competence** (Element 4.4.2 of OSH 18001) *(d) The organization shall establish, implement and maintain a procedure(s) to persons working for it or on its behalf aware of…the potential consequences of departure from specified operating procedures.* User training does not include consequences for departure from procedures. **(NSLS)**

B.5 **Training, awareness and competence** (Element 4.4.2 of OSH 18001) Review with staff the proper method for storage and maintenance of personal protective equipment. In Staff Services motor pool it was observed that hearing protection was hung up or stored in tool boxes increasing the possibility of deterioration or soiling by improper storage. They need to be kept in a clean manner. If shared, they need to be cleaned in between usage. **(F&O Directorate)**

B.6 **Document and data control** (Element 4.4.5 of OSH 18001) *Documents required by the OSH shall be controlled…The organization shall establish, implement and maintain a procedure(s) to (c) ensure that changes and the current revision status of documents are identified. .* Inconsistent dates between official web document and signed paper version. **(C-AD/Magnet)**

B.7 **Document and data control** (Element 4.4.5 of OSH 18001) *Documents required by OSH shall be controlled to (e) ensure that documents remain legible and readily identifiable:* A jumpstart SAF was missing the related ESR # as is required by BES's CFN Proposal and Safety Approval Procedure. **(Basic Energy Sciences)**

## C. Opportunity for Improvement: (8)

C.1 **Legal and Other Requirements** (Element 4.3.2 of OSH 18001): SBMS should be modified to specify an implementation time frame when modifications to subject areas are posted to prevent the line organizations from falling into a state of regulatory noncompliance. **(Institutional)**

C.2 **Objectives** (Element 4.3.3 of OSH 18001): Assure all objectives and targets have measurable indicators that show improvement in performance and/or continual improvement. **(Physics, C-AD/Magnet)**

C.3 **Document and data control** (Element 4.4.5 of OSH 18001): Consider adding a link from CFN's COSA form to the related SAF to improve ability to relate these documents to each other. **(Basic Energy Sciences)**

C.4 **Performance measurement and monitoring** (Element 4.5.1 of OSH 18001): In the R2A2 for tool crib operator, discuss more specifically about the calibration responsibilities of the tool crib operator, e.g. the tool crib operator perform calibration and inspection of equipment as required. **(F&O Directorate)**

C.5 **Accidents, incidents, nonconformances, and corrective and preventive action** (Element 4.5.2 of OSH 18001): QMO procedure," Support of the PAAA Tracking & Trending Database" needs to be updated to reflect current process. Also, the procedure "BNL Tracking & Trending Database" is obsolete and should be rescinded. **(Institutional)**

C.6 **Training, awareness and competence** (Element 4.4.2 of OHSAS 18001): Consider reviewing with individuals where to find JRAs on the web. **(F&O Directorate)**

C.7 **Records and records management** (Element 4.5.4 of OSH 18001): Assure that workers who keep records are aware of retention times, and destroy records when they reach the end of the retention period. **(C-AD/Magnet)**

C.8 **Management Review** (Element 4.6 of OSH 18001): The Institutional Management Review discussed the process for identifying internal/external stakeholder concerns, but gave little detail regarding specific concerns raised. Consider adding more detail on actual communications (i.e. number, type, major issues, how addressed, etc…). Line organizations should also include this information in there Management Reviews if stakeholder concerns (internal or external) are raised regarding their activities. **(Institutional)**

## D. Noteworthy Practices (9)

D.1 **Planning for hazard identification, risk assessments and risk control** (Element 4.3.1): 1 Plans are in development to create a cross referenced matrix of activities and JRA's as an enhanced tool for supervisors to utilize for hazard identification and worker protection. **(CAD/SCM)**

D.2 **Planning for hazard identification, risk assessments and risk control** (Element 4.3.1): The Cross reference Table for the ASR table linking all associated programs, documents is an effective tool. The Activity Safety Review Program is effectively implemented. **(Instrumentation)**

D.3 **Objectives** (Element 4.3.3 of OSH 18001): BES's objectives and targets reflect specific, measurable tasks. The targets address resolution of outstanding legacy issues that require resources, high level management commitment and cooperation within the organization to achieve. **(Basic Energy Sciences Directorate)**

D.4 **Document and data control** (Element 4.4.5 of OSH 18001): F& O has an excellent document control for hard copy items. Procedures are distributed in binders, which is signed for by the receiving individual. The procedures are electronically tracked in a database that triggers notification of owners when procedure updates occur. The number of hard copies is minimized. **(Facilities and Operations Directorate)**

D.5 **Document and data control** (Element 4.4.5 of OSH 18001): Changes in revised procedures marked with a bar on the right of the text making it easy to spot changes. **(Collider/Accelerator Department (C-AD), Facilities and Operations Directorate)**

D.6 **Operational control** (Element 4.4.6 of OHSAS 18001): NSLS has prepared good formal written procedures for design reviews and procurement in their QA manual. **(NSLS)**

D.7 **Accidents, incidents, nonconformances, and corrective and preventive action** (Element 4.5.3 of OSH 18001): F&O keeps a form where they tracking accident reviews and also identify if this triggers a revision in JRAs. This can be considered a good practice. The use of "Flash" Reports to keep track of the status of assigned items is and interesting tool and works well. **(Facilities and Operations Directorate)**

D.8 **Accidents, incidents, nonconformances, and corrective and preventive action** (Element 4.5.3 of OSH 18001): Continuing Improvement was undertaken after an accident investigation. The Department effectively updated the appropriate JRA and reviewed hazards associated with task. JRA -011 rev 1 **(Physics Department)**

## 6.0 ATTACHMENTS

**1: Scope of the Audit**

**2. Audit Records**

**3. QA Program/OSH**

# Attachment 1

## Scope of the Audit

| OHSAS Element | Organization | | | | | |
|---|---|---|---|---|---|---|
| | F&O | HENP: IO | HENP: PO | HENP: CA/SCM | BES | NSLS |
| ESH Policy 4.2. | | | | x | | |
| Planning for hazard identification, risk assessment and risk controls 4.3.1 | x | | x | x | | |
| Legal and other requirements4.3.2 | x | x | x | x | | |
| Objectives 4.3.3. | x | x | x | x | x | x |
| OH&S management program 4.3.4 | x | | | | | |
| Structure and responsibility 4.4.1 | x | x | x | x | x | x |
| Training, awareness and competence 4.4.2 | x | | x | | | x |
| Consultation and communication 4.4.3 | | | x | x | x | x |
| Documentation 4.4.4 | | | x | x | x | |
| Document and data control 4.4.5 | x | | | x | x | |
| Operational Control 4.4.6 | x | x | x | x | x | x |
| Emergency preparedness and response 4.4.7 | x | x | | x | | |
| Performance measurement and monitoring 4.5.1 | x | | | | | |
| Accidents, incidents, nonconformances and corrective and preventive Action 4.5.2 | x | | | | | |
| Records and records management 4.5.3 | | | x | x | x | |
| Audit 4.5.4 | x | | | | x | x |
| Management review 4.6 | x | | | x | x | |

# Attachment 2
# Audit Records

| **Personnel Interviewed** | | |
|---|---|---|
| **Facilities & Operations** (includes Plant Engineering, Central Shops, Staff Services) | R. Costa, F&O ESHT&Q Manager, OHSAS Representative<br>R. DeRocher, Quality Engineer<br>W. Chaloupka, Utility Operations Assistant Manager<br>E. Simon, Supervisor Central Steam Plant<br>D. Van Duyne, Waste Water Facility Treatment Operator<br>R. Izzo, Waste Water Facility Treatment Operator<br>H. Hauptman, Staff Services<br>R. Allingham, Staff Services, Motor Pool Supervisor<br>D. Pfeiffer, Administrative Secretary<br>Arthur Scholtz, Tool Room Attendant<br>A. Somma, Craft Maintenance and Services Superintendent<br>T. Farmer, EP Supervisor | |
| **National Synchrotron Light Source** | R. Casey, OSH Representative<br>Nick Gmur | Mary Anne Corwin<br>Andrew Ackerman |
| **Collider – Accelerator Department and Superconducting Magnet Division** | Ed Lessard, OSH Representative<br>Dean Ince<br>Lynn Ann DiFilippo<br>Jim Durnan<br>Mel VanEssendelft<br>Ray Karol<br>Joel Scott | John deBoer<br>Peter Cirnigliaro<br>John White<br>Richard Savage<br>Christopher Poretto<br>Melvin Van Essendelft |
| **Physics Department** | Ron Gill, OSH Representative<br>Mike Zarcone OSH Representative | Keith Klaus |
| **Basic Energy Sciences Directorate** Condensed Matter Physics and Materials Science Department, Chemistry Department and the Center for Functional Nanomaterials Department | John Taylor, OSH Representative<br>Bob Sabatini CMPMS OSH POC<br>Diane Cabelli Chemistry OSH POC<br>Arnie Moodenbaugh | Grace Webster<br>Debbie Bauer<br>Li Hua Zhang |
| **Instrumentation Division** | Frank Stubblefield, Acting OSH Representative<br>Keith Klaus | Rolf Beuttenmuller<br>Donna Grabowski<br>Howard Hansen |
| **Documents Reviewed** | | |
| **Site Level** | NSF Registration Audit Phase 2, 2005<br>NSF Re-registration Surveillance Phase 1, 2005 | |
| **Facilities & Operations** | F&O MGMT-300, Rev.2, Dated May 3, 2005 Facilities & | |

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| (includes Plant Engineering, Central Shops, Staff Services) | Operations Directorate Self-Assessment Program Description<br>F&O Directorate Occupational Safety and Health Management System Program Description, Revision 5, Date: 11/4/05<br><br>**Procedures:**<br>F&O and PPM Management Review Verification<br>Operations & Maintenance Mechanical Utilities Operation – Daily Field Calibration of pH meters<br>Central Steam Facility Daily Chemical Report<br>First Responder-Operations Level- The Central Steam Facility<br>PPE Matrix for Stationary Engineer<br>**Job Risk Assessments:**<br>JRA-SS-TRANS-01 New Vehicle Setup<br>JRA-SS-TRANS-02 Tow Truck Operations<br>JRA-SS-TRANS-03 Vehicle Maintenance and Repair<br>JRA-SS-TRANS-04 Fuel Receipt<br>JRA-EP-WSO-06 Transfer liquid sodium hypochlorite from large tanks to truck<br>JRA-EP-WSO-04 Emptying valve pits to drain water from bottom<br>JRA-EP-STATIONARY-02 Testing of boiler water in building 610<br>JRA-EP-CCW-12 Air Conditioning Package/Roof Unit Maintenance<br>**R2A2s:** Craft 900 &901, Tool Crib Attendant<br>**Management Reviews and Targets and Objectives:**<br>Facility & Operations and Procurement & Property Management FY 2005 Environment, Safety & Health Management Review<br>Facilities & Operations and Procurement & Property Management ESH Management Review Minutes 10./14/05 Berkner Hall Room B<br>F&O Directorate ES&H Targets and Objectives for FY 2006<br>F&O and PPM FY 2005 ESH Management Review – Record of Decision, 10/19/05<br>F&O Directorate FY 05 Self –Assessment Report<br>F&O Flash Report… for the period ending January 31, 2006<br>Central Fabrication Services FY 2005 Performance Measures<br>Corrective Action status: ID number 9073<br>Internal Audit Report of the Facilities and Operations Directorate August 26,2005.<br>Review of NSF 2005 audit. One finding for Rigger – ATS -2772- closed out June 24, 2005.<br>Fiscal Year 2005 Injury Investigation Log for DF and EP |
| **National Synchrotron Light Source** | NSLS Management Review 2005<br>NSLS FY06 ESH improvement plan<br>FY2006 Self Assessment Plan |

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| | NSLS OSH Manual LS-ESH-0011<br>NSLS OHSAS Management System Key Contact List<br>R2A2 W. Casey, OSH Representative<br>NSLS Training Web page<br>NSLS Training Policy LS-TRRN-0001<br>NSLS Training Matrix LS-ESH-0039<br>PRM 1.2.0 Environmental Safety and Health Inspections<br>PRM 1.3.6 Work Planning and Control<br>PRM 1.3.5a Experimental Safety Review<br>Facility Use Agreements<br>NSLS Communication Plan<br>NSLS Newsletter<br>Final Report (Phase I) Assessment of National Synchrotron Light Source (NSLS) Occupational Health And Safety Management System To The Occupational Health And Safety Assessment Series (OHSAS) 18001 Specification, Date Submitted: Sept. 7, 2005 |
| **Collider – Accelerator Department and Superconducting Magnet Division** | Internal Audit Report of the Collider Accelerator Department (C-AD) And Superconducting Magnet Division (SMD) June 3, 2005<br>Supplemental Internal Audit Report of the Superconducting Magnet Division (SMD) 11, 3, 2005<br>C-AD/SMD OSH Management Plan for Accelerators, Experimental Ares, Shops and/or Offices (C-A-OPM 14.30 (y)) 2.22.05<br>C-A Aspects Matrix Rev k 6.8.05<br>JRA 11a-05<br>JRA 11b-05<br>1.10.4 OSH Management System Program Description for Collider Accelerator Department and Superconducting Magnet Division (C-A-OPM 1.10.4 (y)) 1.25.05<br>Draft Minutes from Senior Management Evaluation 9.14.05<br>R2A2 – Edward Lessard<br>R2A2 – Dean Ince<br>R2A2 – Chris Porretto<br>WCS 9.26.05 -19<br>Work Permit resin Handling and exchange<br>SMD – BECP-3001 MAP<br>FY05 CAD/ Objectives SMD – web page<br>CAD Record of Decision from Senior Management 9/26/05 web page<br>C-A Department Review of Occupational Safety and Health (OSH), Environmental (EMS) and Self-Assessment (SA) Management Systems - Presentation - September 14, 2005<br>Tier 1 Inspection Records (2748.1.7 2005 – 2748.1.6 2005 – 2748.1.10 2005) |
| **Physics Department** | Final Report (Phase I) 8/16/05 (Phase II) 11/1/05 Internal Audit |

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| | Report of the Physics Department<br>PO-JRA-011 Rev 1<br>PO-JRA-010<br>ESR PO 2006-001<br>PO-FRA -006<br>Cross reference matrix worker activity & JRA document<br>All hands Meeting minutes and sign in sheet<br>Physics Management Plan PO-OHS-02<br>Ron Gill R2A2,<br>Staff, Supervisor, Management R2A2 addendum<br>Organizational Chart<br>OHS -01 Management Plan<br>Document Retention Matrix<br>Web Pages<br>Draft Minutes From Senior Management Evaluation 9/14/05 |
| **Basic Energy Sciences Directorate** Condensed Matter Physics and Materials Science Department, Chemistry Department and the Center for Functional Nanomaterials Department | Management Description<br>BES OSH/EMS Organization Chart<br>Experimental Work Planning Procedure<br>Sample ESRs<br>FUA<br>2005 Internal Audit Report of the BES Directorate |
| **Instrumentation Division** | Internal Audit Report of the Instrumentation Department – 8.31.05<br>Instrumentation Division Guest and Visitors Questionnaire Form<br>FY 05 Management Program<br>IO Management Plan<br>Frank Stubblefield R2A2<br>IO Organizational Chart<br>Work planning and work Permits<br>ASR<br>ESH Management System<br>Contingency Plan Rev 9<br>Hazard Assessment Facility Template 2/22/05<br>EMAIL<br>TIER 1 Inspection Reports 0B-05-23, 0B-05-22, 0B-05-24, DC-05-12, DC-05-13<br>Table top Emergency Drill 9-7-05 and schedule |
| **Areas Visited/Operations Observed** | |
| **Facilities & Operations** (includes Plant Engineering, Central Shops, Staff Services) | Central Steam Facility – Record keeping for PH Meter; Assessment of PPE usage<br>Sewage Treatment Plant- Assessment of PPE usage<br>Staff Services Shop - Motor Pool- Assessment of PPE usage<br>Tool Crib - Observing calibration of equipment |

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| **National Synchrotron Light Source** | Walk through of Building 725, NSLS Light Source Experimental Floor and laboratories |
| **Collider – Accelerator Department and Superconducting Magnet Division** | Collider Cooling Water Systems<br>SMD – Soldering activity |
| **Physics Department** | Tour of Building 510. |
| **Basic Energy Sciences Directorate** Condensed Matter Physics and Materials Science Department, Chemistry Department and the Center for Functional Nanomaterials Department | Tour of Bldg 480<br>Tour of Bldg 555 |
| **Instrumentation Division** | Tour of Building 535 |

# Attachment 3

# QA Program/OSH

The BNL Quality Assurance QA Program (QAP) has a number of elements in common with the BNL OPSH as detailed in the table below.

| QAP Element (DOE O 414 and 10 CFR 830.120) | Corresponding OSH Element (OHSAS 18001) | Implementing SBMS Subject Area (SA)* |
|---|---|---|
| Quality Improvement (Criterion 3) | Nonconformity, Corrective Action and Preventive Action (Clause 4.5.3) | Nonconformances, Identifying and Reporting; Corrective and Preventive Action; Occurrence Reporting and Processing System (ORPS); Lessons Learned; Critiques |
| Documents and Records (Criterion 4) | Control of Documents (Clause 4.4.5) | Internal Controlled Documents |
| Work Processes [Calibration] (Criterion 5 &8) | Monitoring and Measurement (Clause 4.5.1) | Calibration |

*****Owned by Quality Management System. Also, these Subject Areas satisfy the requirements of DOE O 414, 10 CFR 830.120 and OSH 18001.

This OSH internal audit, thus in effect, has assessed these common elements between the QAP and the OSH. While there were no programmatic issues concerning these common elements, it would have been the responsibility of the steward for the Quality Management System to address them had this occurred.